



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
|-----------------|-------------|----------------------|---------------------|------------------|

10/596,982

09/01/2006

Rainer Mueller

A8472PCT-UT

3866

43749

7590

07/08/2008

CHRISTOPHER PARADIES, PH.D.
FOWLER WHITE BOGGS BANKER, P.A.
501 E KENNEDY BLVD, STE. 1900
TAMPA, FL 33602

EXAMINER

GREEN, RICHARD R

ART UNIT

PAPER NUMBER

4174

MAIL DATE

DELIVERY MODE

07/08/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

| | | | |
|------------------------------|--------------------------------------|---------------------------------------|--|
| Office Action Summary | Application No. 10/596,982 | Applicant(s) MUELLER ET AL. | |
| | Examiner Richard R. Green | Art Unit 4174 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 February 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 June 2006 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>8/3/2006 and 10/4/2006</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Priority

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Information Disclosure Statement

An information disclosure statement (IDS) was submitted on 8/3/2006 and 10/4/2006. The submissions are in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statements are being considered by the examiner.

Specification

The specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-22 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The claims are replete with violations of 35 U.S.C. 112, second paragraph. Particular examples have been illustrated, but others may be present. The claims must be carefully revised before the application may pass to issue.

Claim 1, line 15: the limitation "which additionally are arranged so as to be completely enclosed by a foil..." appears to refer to the ribs of the fuselage, but more likely refers to the insulation packages; the examiner is considering the limitation in this second manner.

Claim 1, lines 17-18: the limitations "larger cross section" and "smaller cross section" are unclear because they do not describe what the cross sections are larger or smaller than. The examiner considers the limitation to mean that the barrier layer cross section of line 18 is smaller than the fireproof insulation cross section of line 17.

Claim 1, page 2 lines 1-3: It is uncertain what the limitation "which on the long end of the fuselage insulation package continues outward..." refers to. It appears to refer to the fuselage insulation package itself, but more likely refers to either the foil or the outside insulation. The examiner considers the limitation to refer to the foil covering.

Claim 8 recites the limitation "brand end of the parabola" in line 5. There is insufficient antecedent basis for this limitation in the claim.

Regarding claim 9, the phrases "namely a steel," and "preferably a stainless steel" render the claim indefinite because it is unclear whether the limitations following the phrase are part of the claimed invention. See MPEP § 2173.05(d).

Claim 10 recites the limitation "second attachment element" in line 2. There is insufficient antecedent basis for this limitation in the claim.

Claim 11 recites the limitation "truncated-cone body" in line 2. There is insufficient antecedent basis for this limitation in the claim.

Regarding the limitation "in the shape of a paraboloid" in line 4 of claim 11, it is unclear what exactly is in the shape of a paraboloid.

Claim 13 recites the limitations "second insulation ring" in line 2 and "external diameter of the end region of the dome-shaped casing" in lines 3-4. There is insufficient antecedent basis for these limitations in the claim.

Regarding claim 15, the phrases "namely a steel," and "preferably a stainless steel" render the claim indefinite because it is unclear whether the limitations following the phrase are part of the claimed invention. See MPEP § 2173.05(d).

Claim 17 recites the limitations "hole like recess" in line 4, "first attachment element" in line 7 and "second attachment element" in line 11. There is insufficient antecedent basis for these limitations in the claim.

Regarding claim 18, the phrase "and combinations thereof" in line 11 of the claim renders the claim(s) indefinite because the claim(s) include(s) elements not actually disclosed (those encompassed by "and combinations thereof"), thereby rendering the scope of the claim(s) unascertainable. See MPEP § 2173.05(d).

Still regarding claim 18, it is unclear what is meant by the limitation "wherein the burn-through-proof element ... continue[s] without interruption from the combined fuselage insulation package." It is unclear where it continues to.

Regarding claim 20, the phrase "and combinations thereof" renders the claim(s) indefinite because the claim(s) include(s) elements not actually disclosed (those

encompassed by "and combinations thereof"), thereby rendering the scope of the claim(s) unascertainable. See MPEP § 2173.05(d).

The edits to claim 20 leave it grammatically uncertain to the point where the examiner assumes the claim requires a fire barrier from the presented list to be screwed and riveted in some manner to an unknown element. It is unclear, for example, if the barrier is supposed to be screwed and riveted to a structure holder and a separate support element, either, or another element entirely. In particular the phrase, "... and combinations thereof, of the fuselage insulation packages the fire barrier being screwed and riveted," requires clarification.

Claim 21 recites the limitation "further attachment element" in lines 2-3. There is insufficient antecedent basis for this limitation in the claim.

Claim 22 recites the limitation "screw connection element" in lines 1-2. There is insufficient antecedent basis for this limitation in the claim.

The claims are generally narrative and indefinite, failing to conform with current U.S. practice. They appear to be a literal translation into English from a foreign document and are replete with grammatical and idiomatic errors.

Drawings

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the "recess" of claim 8 (line 2) must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet” pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description:

“rib insulation package 16” (specification page 5, lines 20, 26, 27, 29, possibly elsewhere) not in figure 1, or elsewhere.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate

prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Objections

The claims are replete with informalities. Some examples are illustrated below, but the claims should be revised carefully before the application may pass to issue.

Claims 6-7 objected to because of the following informalities: The term "pine-tree-shaped" does not adequately describe a shape. For example, the elevations when taken all together may appear as a pine tree, or each elevation may be in the shape of a pine tree, or a part of a pine tree.

Claim 8 objected to because of the following informalities: The shape of the end region of the casing is referred to as "dome-shaped," "in the form of a recess," "shape of a paraboloid," "parabolic rotation body." It is preferable to consistently refer to the shape of the part claimed.

Claim 18 objected to because of the following informalities: Since a list is presented in lines 9-11, a comma should generally be present after the limitation "burn-through-proof foil enclosure." Also, the line "rib insulation package continue without interruption" (line 12 of claim) should read "continues without interruption."

Claim 19 is objected to because of the following informalities: Excessive comma misplacement. There should be no commas following “insulation end sections” in line 2, “fuselage insulation package” in lines 2-3, or “attachment element” in line 3.

Claim 22 objected to because of the following informalities: The term CFK should be spelled out.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims **1-3, 17-18 and 21** are rejected under 35 U.S.C. 102(b) as being anticipated by US-6358591 to Smith.

Claim 1: Smith teaches an insulation package arrangement for insulating an interior of an aircraft fuselage (such as figs. 4, 9, 10, or 11), whose structural unit not only includes stringers with which all the panels of an outer skin of an aircraft fuselage structure are stiffened, but also several ribs which are arranged substantially perpendicularly to a longitudinal axis of the aircraft at a specified distance (same figures, additionally fig. 1, col. 5, lines 25-27), and which are attached to the stringer, with a rib carrier being integrated into said ribs on the unattached end of the carrier of the aircraft (same figures), in which arrangement several fuselage insulation packages

Art Unit: 2885

which comprise an elongated package shape (fig. 5; col. 6, lines 46-48) are situated in the direction of the longitudinal axis of the aircraft at the fuselage structure of the aircraft (col. 6, lines 30-34, fig. 10), wherein said fuselage insulation packages which longitudinally rest against a support surface of the stringers which are attached to the aircraft fuselage or which are placed so as to rest against an inner area of a panel of the outer skin (col. 6, lines 30-34), and these fuselage insulation packages are attached on a longitudinal side of the ribs (fig. 10) which additionally are arranged so as to be completely enclosed by a foil (col. 6, lines 40-43, fig. 5, foil at 23) and within a space enclosed by interior paneling and by the panels of an outer skin (figs. 1, 2); whose design is implemented with burn-through-proof insulation of a larger cross section (fig. 5, at 24) and/or with a burn-through-proof barrier layer of a smaller cross section (fig. 5, at 33), which are arranged either individually or in combination within the fuselage insulation package (fig. 5), in which the insulation or the barrier layer is guided so as to be situated either close to or resting against an interior wall region of the foil wall (col. 6, lines 30-34; fig. 10), or only the insulation is attached outside and resting against the circumference of the foil of the fuselage insulation package (fig. 5), which on the long end of the fuselage insulation package continues outward with a flat insulation end section (fig. 5, at 35) which in a rib attachment region arranged below the longitudinal sides of a rib and adjacent to the stringer is attached with burn-through-proof attachment elements to the rib (fig. 4 or 10).

Claim 2: Smith teaches the insulation package arrangement of claim 1, wherein in the rib attachment region (fig. 10, at 31 where the item between numerals 34 and 26

Art Unit: 2885

pierces) a through hole is drilled (see fig. 10, break in item 31), and in a package region of the fuselage insulation package which on one side adjoins a front- or rear-arranged longitudinal side of the rib (see fig. 10, at 24b), there is a hole-like lead through (fig. 10, see hole between items 24a and 24b), and the ongoing insulation end section which on the other side is arranged so as to be adjacent to a front- or rear-arranged longitudinal side of the rib (fig. 10, item opposite to and analogous to item 24b), comprises a hole-like recess (see hole near numeral 34).

Claim 3: Smith teaches the insulation package arrangement of claim 1, wherein a first attachment element (fig. 10, at 26), which has been implemented with a burn-through-proof insulation pin (see fig. 10), is fed through the hole-like leadthrough, through the through hole and through the hole—like recess (see fig. 10, item 26 passes through all hole and hole-like apertures), provided the latter are arranged so as to be substantially congruently aligned (see fig. 10).

Claim 17: Smith teaches the insulation package arrangement of claim 1 wherein several fuselage insulation packages, which are positioned in a region of the fuselage structure which is delimited by ribs (see fig. 1), are arranged on the inner structure of the fuselage (see fig. 1, col. 6, lines 30-34), and the hole-like recess of the flat insulation end section of at least two fuselage insulation packages which on one longitudinal side of the rib continue in an insulation section, are conveyed to the first attachment element (fig. 10, attachment element at 26, holes are seen where it passes through, the flat insulation end sections are seen past the end of inner insulation at 24a; a corresponding flat insulation end section is seen on the other side of the rib at 31, and is also conveyed

Art Unit: 2885

to the attachment element at 26) which is an insulation pin designed to be burn-through proof (it is an insulation pin and considered to be burn-through proof), as a result of which an overlap of the insulation end sections is formed on the respective longitudinal sides of the respective ribs (see fig. 10, the insulation package end section on the left is seen to overlap the package end section on the right), with the attachment of said insulation end sections on the longitudinal sides of the ribs to the first attachment element is secured with the second attachment element, which is an insulation disc or ring element (fig. 10; item 34, which can be seen more clearly near the arrow from number 26, is an insulation disc element and may be considered as a second attachment element which secures the attachment of the end sections to the first attachment element).

Claim 18: Smith teaches the insulation package arrangement of claim 1, wherein the design and the position of the individual fuselage insulation package agrees with that of a traditionally used field insulation package (see fig. 4 or 10), which in the direction of the aircraft axis is situated on the aircraft fuselage structure or near the latter (see fig. 1, 2, 4 or 10), and longitudinally adjoins that stringer support area of the stringer at a defined distance (see fig. 10) and of a traditionally used rib insulation package which adjoins the longitudinal sides of the ribs and the rib carrier of the individual rib (see fig. 10); which in each instance comprises the combination of the individual field- and rib- insulation package which is a burn-through-proof element selected from elements consisting of a burn-through-proof foil enclosure (fig. 5, at 23) a burn-through-proof insulation (fig. 5, at 24), a burn-through proof barrier layer (fig. 5, at

33) and combinations thereof, wherein the burn-through-proof element of the respective field- and rib insulation package continues without interruption from the combined fuselage insulation package (see fig. 10; element 23 continues without interruption across the rib).

Claim 21: Smith teaches the insulation package arrangement of claim 1, wherein the further attachment element is a rivet, comprising steel or titanium, or is a screw connection element comprising steel or titanium or plastic (col. 8, lines 65-67 allow for screw connection elements 26 in fig. 10 to be made from plastic).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim **22** rejected under 35 U.S.C. 103(a) as being unpatentable over Smith in view of US-6389775 to Steiner et al. (hereafter Steiner).

Smith teaches the insulation package arrangement of claim 21, wherein the screw connection element is a screw and nut (fig. 10; screw at 26, nut at 34) made from plastic, but fails to teach them made from aramide of a CFK material.

Steiner teaches a reinforcing element made from aramide fibers (col. 3, lines 11-13).

It would have been obvious to a person of ordinary skill in the art at the time of the invention to make the screw and nut of Smith out of aramide fibers as in Steiner as a material from which to construct the screw and nut. See *In re Leshin*, 125 USPQ 416.

As best considered, claims **4-11 and 13-14** are rejected under 35 U.S.C. 103(a) as being unpatentable over Smith in view of US-6000107 to West.

Smith teaches the insulation package arrangement of claim 3, but fails to teach an insulation pin implemented with a cylindrical core element.

West teaches an insulation pin (fig. 1),
implemented with a cylindrical core element (fig. 1, at 16) which near the end of the pin comprises a flange-like elevation (fig. 1, at 22) and a cylindrical plastic-like casing (fig. 1, at 18; col. 3, lines 50-56 describe it to be plastic or plastic-like) (claim 4);
wherein the core element is embedded in the plastic-like casing (fig. 1) (claim 5);
wherein approximately in the middle of the casing a flange exits (if parts 18, 32 and 38 are taken together, the flange at 26 may be considered to be in the middle of the casing longitudinally, alternatively with singly part 18 in consideration as the casing, the flange is approximately about the middle of the casing radially), from which, starting at the cylindrical circumference of the casing and substantially parallel to the core element across its extended length, several pine-tree-shaped elevations are positioned so as to be spaced apart from each other (fig. 1, pine tree elevations visible below the flange at 26 on the body of element 18) (claim 6);

wherein the pine-tree-shaped elevations are comparable to a type of stepped gradation that is conical, wherein the gradation starts at the circumference of the casing and its tapering-off conical form is achieved by a conical tapering-off of the circumference of the casing (see fig. 1; as best considered, the elevations are in this shape) (claim 7);

wherein the end region of the casing is dome-shaped in the form of a recess (see fig. 1, dotted line near the arrow from numeral 18; this is a dome-shaped recess), wherein the external shape of said end region has the shape of a paraboloid, comparable to the shape of a parabolic rotation body whose longitudinal section has been realized with a parabolic shape, wherein the branch end of the parabola is continued by a stepped gradation drawn inward vertically in relation to the pin axis (see tip of item 18 in fig. 1; it is in the shape of a rotated paraboloid) (claim 8);

wherein the core element is made from stainless steel (see fig. 2; SS plunger pin is made of stainless steel), and the casing comprises a plastic of poor thermal conductivity (col. 3, lines 50-56 allow part 18 to be made from nylon, which is considered to be a plastic of poor thermal conductivity) (claim 9);

wherein the design of the second attachment element is implemented with a truncated-cone body whose base area and cover area are implemented with insulation discs or ring elements which are designed so as to be burn-through proof (fig. 2a, second attachment element may be considered as item 30, which is generally in the shape of a truncated cone body, and may be considered to generally have disc or ring elements on the top and bottom sides, which are considered to be burn-through proof),

Art Unit: 2885

being joined by a burn-through proof insulation jacket on the side of the disc margin or ring margin by a disc or ring of a larger external circumference (fig. 1; item 36 is a ring of larger external circumference and can be considered to join the external surface of the top and bottom rings of item 32 when a sheeted material is not captured therein) (claim 10);

wherein the cover area of the truncated-cone body comprises a first insulation disc (fig. 2a, bottom ring of item 30), where a hole has been made in the middle of the disc (fig. 2a, there is a hole shown in item 30), whose diameter is smaller than or almost the same as the external diameter of the end region [in the shape of a paraboloid] of the dome-shaped casing (the diameter is slightly smaller than the dome of item 16), so that the holed wall of the insulation disc may be guided with a tight fit over the branch end of the parabola of the parabolic end region of the casing (it is intended to; see fig. 1) (claim 11);

wherein the design of the second insulation ring comprises a disc-shaped core element with a hole in the middle of the disc, whose hole diameter is smaller than or almost the same as the external diameter of the end region of the dome-shaped casing implemented in the shape of a paraboloid, and comprises a plastic-like casing (see fig. 2a; second insulation ring may be taken as the top half of item 30 which has a hole through the center smaller than the dome of item 16, and is made of nylon as described in fig. 2a) (claim 13); and

wherein the disc-shaped core element is embedded in the plastic-like casing (they are integral and considered embedded) (claim 14).

It would have been obvious to a person of ordinary skill in the art at the time of the invention to use replace the attachment elements of Smith with the attachment elements of West as a means to flush-mount the insulation to the ribs (col. 1, lines 64-66) to minimize the exposure area to a fire.

Allowable Subject Matter

Claims **12, 15-16 and 19-20** may be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

US-5866231 to Bodin et al. describes insulation for an aircraft.

US-4805366 to Long describes a fastener for use in insulation.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Richard R. Green whose telephone number is (571)270-5380. The examiner can normally be reached on Monday - Thursday 7:00 am - 4:00 pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kimberly D. Nguyen can be reached on (571)272-2402. The fax phone

Art Unit: 2885

number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/R. R. G./
Examiner, Art Unit 4174

/JACOB CHOI/
Primary Examiner, Art Unit 2885